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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/686,417	10/11/2000	Johannes Stollenwerk	HERO7 P-441	6074

7590

01/15/2002

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EXAMINER

FERGUSON, LAWRENCE D

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 01/15/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/686,417	Applicant(s) STOLLENWERK ET AL.	
	Examiner Lawrence D Ferguson	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) 12-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5/6</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-11 and 17-25, drawn to a layer system, classified in class 428, subclass 195.
- II. Claims 12-16, drawn to method of making, classified in class 156, subclass 254.

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, a conductive transparent layer system can be made by extruding and curing a first oxide layer material, silver layer material and second oxide layer material followed by deposition of the layered system.

2. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

3. A telephone call was made to James Mitchell on December 12, 2001, to request an oral election to the above restriction requirement, a provisional election was made with traverse to prosecute the invention of group I, claims 1-11 and 17-25. Affirmation of this election must be made by applicant in replying to this Office action. Claims

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12-16, withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections – 35 USC 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1-11 and 17-25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In Claims 1, 3-11, 17-20 and 22-24, "preferably" is a relative term and therefore indefinite.
- b. Claim 4 is dependent upon itself, which is improper and therefore indefinite.
- c. Claim 5 is dependent upon itself, which is improper and therefore indefinite.
- d. In Claims 11 and 18, the phrase "best of all" is indefinite.

Claim Rejections – 35 USC § 102(b)

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0599071 A1.

As translated in the background of the invention provided by applicant, EP '071 discloses a layer system with the layer sequence indium tin oxide, silver or various silver alloys, indium tin oxide. The reference discloses layers can be produced with a surface resistivity of 3.2 Ω_{sq} , at the same time, good transmittance in the visual part of the spectrum. EP '071 discloses wavelengths 435, 545 and 610 nm, a mean Haacke quality factor of 0.066. The reference does not explicitly disclose the exact surface resistivity as applicant. Because the reference contains the same materials as applicant, the surface resistivity would be expected to be the same, absent any evidence to the contrary. The reference discloses the layer system being transparent in column 1, lines 11 and 37. EP '071 further describes various conductive metals throughout including indium zinc oxide (column 4, line 17).

Claim Rejections – 35 USC § 103(a)

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4, 6-7, 9, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0599071 A1 in view of JP 09176841.

As translated in the background of the invention provided by applicant, EP '071 discloses a layer system with the layer sequence indium tin oxide, silver or various silver alloys, indium tin oxide. The reference discloses layers can be produced with a surface resistivity of 3.2_{sq} , at the same time, good transmittance in the visual part of the spectrum. EP '071 discloses wavelengths 435, 545 and 610 nm, a mean Haacke quality factor of 0.066. The reference discloses the layer system being transparent in column 1, lines 11 and 37. EP '071 further describes various conductive metals throughout including indium zinc oxide (column 4, line 17). The reference does not explicitly disclose the exact surface resistivity as applicant. Because the reference contains the same materials as applicant, the surface resistivity would be expected to be the same, absent any evidence to the contrary. EP '071 does not disclose the oxide layers containing cerium.

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JP '841 teaches transparent films as conductive films sandwiching a silver base thin film with mixed oxides using indium oxide and cerium oxide (abstract). Although the reference does not teach the percentages of the indium and cerium in the oxide layers, weight percentage is optimizable. It would have been obvious to one of ordinary skill in the art to optimize the components because discovering the optimum or workable ranges involves only routine skill in the art. EP '071 and JP '841 are analogous art because they are from the same field of layer systems with a sandwiching of a silver layer. It would have been obvious to one of ordinary skill in the art to include the cerium oxide with the indium oxide in the layer system of EP '071 to sustain the conductivity of the layer system. Although neither reference explicitly disclosed the thicknesses of the layer system and its parts, thickness is optimizable. It would have been obvious to one of ordinary skill in the art to optimize the components because discovering the optimum or workable ranges involves only routine skill in the art. Neither reference disclosed the transparency percentage as disclosed by applicant. Because the combined references contain the same materials as applicant, the transparency value, as in claim 2 would be expected to be the same, absent any evidence to the contrary.

Claim Rejections – 35 USC § 103(a)

11. Claims 1-11 and 17-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0599071 A1 in view of GB 2126256 A.

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As translated in the background of the invention provided by applicant, EP '071 discloses a layer system with the layer sequence indium tin oxide, silver or various silver alloys, indium tin oxide. The reference discloses layers can be produced with a surface resistivity of 3.2 sq , at the same time, good transmittance in the visual part of the spectrum. EP '071 discloses wavelengths 435, 545 and 610 nm, a mean Haacke quality factor of 0.066. The reference discloses the layer system being transparent in column 1, lines 11 and 37. EP '071 further describes various conductive metals throughout including indium zinc oxide (column 4, line 17). The reference does not explicitly disclose the exact surface resistivity as applicant. Because the reference contains the same materials as applicant, the surface resistivity would be expected to be the same, absent any evidence to the contrary. EP '071 does not disclose cerium oxide, copper or sputtering techniques. "Deposited by means of pulsed DC sputtering or AC-superimposed DC sputtering" is a product-by-process. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 227 USPQ 964, 966.

GB '256 teaches a layer system with two dielectric films and a metallic film on a transparent substrate with the dielectric film formed from an oxide of cerium and indium with the metallic film composed mainly of silver and copper (abstract). GB '256 teaches forming the layer system by magnetron sputtering (page 4, lines 7-8). Although the

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reference does not teach the percentages of the indium, cerium or copper in the multilayer system, weight percentage is optimizable. It would have been obvious to one of ordinary skill in the art to optimize the components because discovering the optimum or workable ranges involves only routine skill in the art. EP '071 and GB '256 are analogous art because they are from the same field of multilayer systems with a silver layer.

It would have been obvious to one of ordinary skill in the art to include the cerium oxide with the indium oxide and the copper with the silver in the layer system of EP '071 to sustain the conductivity of the layer system. Although neither reference explicitly disclosed the thicknesses of the layer system and its parts, thickness is optimizable. It would have been obvious to one of ordinary skill in the art to optimize the components because discovering the optimum or workable ranges involves only routine skill in the art. Neither reference disclosed the transparency value as disclosed by applicant. Because the combined references contain the same materials as applicant, the transparency value would be expected to be the same, absent any evidence to the contrary.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.



Lawrence D. Ferguson
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

